DOCUMENT RESUME

ED 047 897 RE 003 351

AUTHOR Lundsteen, Sara W.
TITLE Sequential Levels of Meaning in Reading.
PUB DATE Feb 71
NOTE 10p.; Paper presented at the meeting of the American Educational Research Association, New York, N.Y., Feb. 4-7, 1971

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS *Abstraction Levels, *Cognitive Processes, *Creative Reading, *Critical Reading, Grade 3, Grade 6, *Reading Comprehension, Reading Level, Reading Materials, Reading Research, Thought Processes, Vocabulary

ABSTRACT

This study examined children's preferences for three qualitative levels of thinking--abstract, functional, and concrete--in vocabulary. It was hypothesized that whereas older, more mature readers would choose abstract meaning, younger readers would choose concrete meaning regardless of the nature of the material, and also that a dominant cognitive style might emerge in individuals for one of the three levels. A "Choose a Meaning Test" of word meaning, a "Depth of Meaning Test" of paragraph meaning, and a "Creative and Critical Reading Test" of paragraph meaning were administered to 79 third graders and 111 sixth graders in Berkeley, California. Data were analyzed by analysis of variance, correlation, and factor analysis. Differences were significant (.01) between grades and measures, correlations were moderately high, and factor structure appeared to confirm structures found in other similar studies. The results suggested to the author that dimensions of meanings of this measurement may have implications for describing more and less mature readers. Tables and references are included. (Author/MS)

American Educational Research Association
New York
1971

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

ED047897

Abstract 100 words

Title: Sequential Levels of Meaning in Reading

Sara W. Lundsteen

University of Texas at Austin

This study examined the preference children have for three qualitative levels of thinking--abstract, functional, concrete--in vocabulary, E administered a test of word meaning, a paragraph test of critical and creative reading, and depth of meaning to 79 3rd and 111 6th grade Ss in Berkeley, California. Data were analyzed by analysis of variance, correlation, and factor analysis. Differences were significant ($p<.01$) between grades and measures, correlations were moderately high and factor structrue appeared to confirm structures found in other similar studies. The results suggest that dimensions of meanings from this measurement may have implications for describing more and less mature readers.

RE003 351

SEQUENTIAL LEVELS OF MEANING IN READING

Sara W. Lundsteen

University of Texas at Austin

Research studies have indicated that children tend to give somewhat different kinds of meanings at different developmental stages. This point has been stressed by Piaget in his studies of children in Geneva. In a recognition, rather than in a recall procedure, Russell and Saadeh (1962) studied children's selection of "best" definitions in grades 3, 6, and 9. These and other studies (Lundsteen & Michael, 1966; Lundsteen 1970) suggest qualitative differences in the kinds of meanings children and young adolescents tend to select.

Empirical studies are needed to test ideas about possible stages or levels in the development of responses to longer more complex passages, e.g., the gradual development of different kinds of comprehension ability. Research evidence for stages in the development of comprehension, interpretation, appreciation, and critical response to paragraphs and stories is almost nonexistent. Once this descriptive data is amassed, instructional planning for assistance and experimental manipulation can progress. The present study is concerned with the role of levels of thinking and depth of meaning in simple and in complex verbal stimuli.

RE003 351

Objectives of the Inquiry

The present investigation examined the following ideas:

1. When a child has several alternative meanings before him, the older or more mature reader selects an abstract meaning and the less mature reader selects a concrete meaning regardless of the nature of the material, i.e., be it word as stimulus, or paragraph with questions designed for provoking supposedly creative or critical thinking. In other words, this study questions whether or when S perceives abstract or functional phraseology as superior to concrete or particular phraseology.

2. There was also curiosity as to whether Ss would show a cognitive style or dominant preference for one of the categories (abstract, functional, or concrete) which remained the same whatever the measurement.

Method and Data Source

Measurement for this investigation included:

(1) "Choose a Meaning Test" with the abstract, functional, and concrete answer choices described elsewhere (Russell and Saadeh, 1962; Lundsteen 1970); (2) "Depth of Meaning Test" including six multiple choices designed to indicate increasingly progressive depth of meaning, say, for the word "coal" (Russell 1954); (3) Creative and Critical Reading (Paragraph) test (Lundsteen & Michael 1966) in which, again, choices were phrased in abstract, functional, and concrete discourse. But questions were directed toward abstracting: main idea, inferences, mood, judgment,

feeling, contrasts, assumptions, discrimination of fact and opinion, prediction, persuasive devices, search strategy, author purpose, cause-effect relationship, hypothesis construction, and type of discourse. At least six different words from the Choose a Meaning Test were worked into each paragraph in the creative and critical test. Reliabilities are given in table 2; 12 judges assigned the choices to categories with 85% agreement.

Concommitant variables measured were word meaning and paragraph meaning using the Stanford Achievement Test and mental ability using the Lorge Thorndike test.

Means, standard deviations, intercorrelations, reliability coefficients and factor analyses as checks on redundancy of measurement were computed.

The sample was 190 children from the Berkeley, California Public Schools, four third-grade classes and four sixth-grade completing all measurement. Mean IQ was 112 for the third grade and 113 for the sixth.

Results and Conclusions

Table 1 shows the significant differences between third- and sixth-grade test scores on the two measures reflecting categories of choices chosen as "best" by 190 Ss. All contrasts between grade levels are significant. There is, relatively, some predominance of concrete choices in the third grade with a considreable decline of concrete choices in the sixth grade for both measures. Correlatively, there is an increase in the

number of abstract choices for the sixth grade on both measures. These results are similar to those found in other studies (Russell & Saadeh (1962); Lundsteen & Michael 1966).

Another validity check had been made in the Russell and Saadeh study by classifying students on the experimental word-meaning test using as the basis their dominant preference for one of the categories. Each Ss dominant preference for any one category of meaning was identified arbitrarily on the basis of at least 40% of the answers in that category and at least 10% less in any other category. Those who failed to meet the arbitrary criterion were put into a mixed category. In the present study the major interest was not so much that there might exist a difference between the abstract and function categories, which there generally was, but the interest was in seeing whether or not the styles would remain the same across the two measures containing levels of thinking.

Table 2 displays the number and percentage of occurrences of a certain category of cognitive style for the two measures designed with levels of thinking in the answer choices. The Chi square computed was significant at both grade levels. The abstract style rose from 6% at the third grade level for the test with the single word as the stimulus to 32% for the complex test of critical and creative paragraph reading.

Implications of Educational Importance

Why did the third-grade pupils significantly increase in abstract thinking style? If one views reading as recognizing words, defining them and piecing their definitions together into a logical thought pattern, one might expect the style of thinking for the two experimental tests of levels of meaning to be nearly the same, but they were not. If one entertains the idea that the whole is more than the sum of its parts, more than a "piecing together," then when children base their choices on reactions to cognitive levels encompassing a large thought unit of the paragraph or story (rather than the single word), a preference for higher level or abstract choice may become more relevant. Possibly the process the question elicits encourages a higher level of abstracting. That is, the process of critical thinking and inferring may have produced a mental set or attitude that would make an abstract choice more relevant as opposed to the personally opportunistic, functional choice and as opposed to the personally opportunistic, functional choice and as opposed to the personally, particular, concrete choice. Thus, there may be an implication about the nature of reading material that third-grade children should be exposed to and about the provocative questions asked regarding such material, if the educational purpose is the assistance of higher levels of abstracting and generalizing. These results as similar to those found when related study was made with another sample in Santa Barbara, California

(Lundsteen & Michael, 1966).

In the larger philosophic sense the first function of reading instruction is not to impart the maximum number of facts, but to develop a repertory of various kinds of meanings, and to encourage use of them in seeking and finding answers to problems. If it seems worthwhile to study children's vocabularies and their responses to complex prose presentations in other than quantitative terms, the investigator suggests that tests such as refined versions of those used in this study may yield informative data about language development.

REFERENCES

Lundsteen, S.W. Manipulating abstract thinking as a subability to problem solving in the context of an English curriculum. American Educational Research Journal, 1970, 7, 373-396.

Lundsteen, S.W. & Michael, W.B. Validation of three tests of cognitive style in verbalization for the third and sixth grades. Educational and Psychological Measurement, 1966, 26, 449-461.

Russell, D.H. The dimensions of children's meaning vocabularies in grades four through twelve. University of California Publications in Education, 1954, 11, 315-414.

Russell, D.H. & Saadeh, I.Q. Qualitative levels in children's vocabularies. Journal of Educational Psychology, 1962, 53, 170-174.

TABLE 1

Significance of Differences Between Third-grade and Sixth-grade Test Scores Reflecting Categories of Choices Chosen as "Best" by 190 Children

Test[a] Category	Grade 3 N=79		Grade 6 N=111		
	M	SD	M	SD	t values
CCP[a]					
Abstr.	15.73	5.52	23.33	5.85	9.12**
Funct.	13.32	2.96	12.45	2.96	2.00*
Concr.	10.73	4.04	6.99	3.54	7.00**
CHM[a]					
Abstr.	11.25	3.95	18.74	5.70	11.00**
Funct.	11.46	2.94	12.73	2.75	3.02**
Concr.	11.76	4.30	6.46	4.49	8.22**

*$p < .05$

**$p < .01$

[a]CCP = Creative and Critical paragraph test; 45 items; test-retest r = .71 reliability.

CHM = Choose a Meaning Test; 42 items; test-retest r = .88 reliability.

TABLE 2

Number and Percentage of Occurrence of a Category of Cognitive Sytle for Two Measures, Creative and Critical Paragraph Test and Choose a Meaning Test, Shown at Grades Three and Six

		Grade 3 N=79			Grade 6 N=111		
Test[b]	Category	N	x^2	percentage	N	x^2	percentage
CCP[b]							
	Abstr.	25		32	88		79
	Funct.	2		3	2		2
	Concr.	5		6	1		1
	Mixed	47		59	20		18
CHM[b]							
	Abstr.	5		6	66		59
	Funct.	3		4	2		2
	Concr.	9		11	4		4
	Mixed	62		79	39		35
			16.78**[a]			11.06*[a]	

* $p < .05$
** $p < .01$

[a]Chi square was computed between the number of abstract cognitive styles exhibited on CCP and on CHM for the third grade and for the sixth grade.

[b]CCP = Creative and Critical Paragraph Test

CHM = Choose a Meaning Test